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Management of the IT&C and E-Commerce integration process by the enterprises in Romania

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Abstract

Having Internet access and an online presence has become essential in the modern business, especially as the demarcation line between shopping, browsing, working and playing on the Web has began to fade for most users. Considering the current situation, the need for the Romanian enterprises to adapt to the new realities of the Internet Economy is stringent. The purpose of the present research is to identify the specific elements which represent barriers and enablers in the implementation process of the new technologies and especially e-commerce in Romania and to create a specific model which can show the interdependency between these factors. To identify these elements we conduct a PESTEL Analysis for Romania with regard to the integration process of IT&C and E-commerce by the national economic environment. The results of the analysis show a low level of E-readiness compared to the other EU countries, which varies across different industries.

Keywords: E-commerce; IT&C; PESTEL Analysis;

1. Introduction

The development of the IT&C sector and the commercial Internet have revolutionized businesses, economies, and societies throughout the world. The global diffusion of the commercial Internet has occurred with astounding speed. Romania, according to the evaluations of the European Commission is still in the development stage of the e-business climate, which encounters barriers, costs and infrastructure problems, www.eurostat.ro. Our current research has the main purpose of identifying the most important factors that act

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as enablers or barriers in the IT&C integration process of the Romanian enterprises, understand the way in which each factor affects the IT&C sector, and analyze the interdependency between the analyzed factors in order to be able to formulate some pertinent recommendations for the future directions of development.

2. Methodology

In order to achieve the purpose of the research we have identified the main factors that directly affect the IT&C and Internet integration process by the Romanian business environment. In order to evaluate the impact of each factor, we have conducted a PESTEL analysis, which allowed us to identify which of the factors constitute enablers and barriers in the integration process. After conducting the PESTEL Analysis, the data was further processed, with the scope of creating a specific model which can indicate the main interdependency relationships between the PESTEL factors. This model has been used as a tool to further evaluate the quantitative potential impact of each factor on the strategy of the enterprises. Each factor has been evaluated on an increasing scale ranging from 1 to 5. An average impact of each PESTEL component has been calculated, which can represent the basis for constructing future strategic directions for the development of the IT&C sector in Romania.

3. Results and discussions

3.1. PESTEL Analysis

- *Political factors:*

Although our research shows that governmental support for the IT&C sector in Romania is insufficient, the governmental representatives declared their commitment to invest in technology. An important political enabler is represented by the European initiatives which will create demand for ICT products and services on the Romanian market to cover the generous offer which is ensured both by international and Romanian companies. Ana Grama et al., 2007, the e-commerce activity is also strongly influenced by the degree of market liberalization. The adoption rate of e-commerce technologies is consistently higher in competitive markets, while the liberalization of telecommunications encourages the diffusion of IT and internet by providing more affordable rates and a wider selection of options and services.

Table1. Political factors affecting the IT&C and Internet integration process by the Romanian enterprises

P1-Government and EU promotion initiatives	P2-External pressure	P3- Liberalization of telecom. and IT markets
<ul style="list-style-type: none"> • insufficient financial and technical support, only 15% of the SMEs have received financial support • if 25% of the SMEs were financed by the government, the contribution to the GDP would increase with 1-2%. www.business-forum.ro 	<ul style="list-style-type: none"> • Lisbon Strategy: ICT is a strategic priority for Europe; • Encouraged operations: SMEs connection to the Internet; construction of tele-centers, support of E-business applications; electronic bidding systems; the increase of the degree of security of electronic transactions. Commission of the European Communities, 2009 • structural funds of 336 million Euros in 2007-2013 	<ul style="list-style-type: none"> • liberalization of the telecom sector, in 2003; • in 2002, adoption of an aggressive regulatory policy focused upon elimination of market entry barriers, which was expected to offer the fastest route to recovering the gap between Romania and the other EU states. www.londra.mae.ro

- Economical factors

We have determined three main economical factors influencing the IT&C sector in Romania, described in Table 2. We start from the premise that wealth, as measured by GDP per capita, is a key determinant of e-commerce diffusion rates across countries Caselli et al., 2001. Also the financial resources of the enterprises, such as venture capital to support on-line businesses and start-ups are another enabler of e-commerce across countries.

Table 2. Economical factors affecting the IT&C and Internet integration process by the Romanian enterprises

E1- Economic and financial resources of the population	E2- Availability of SMEs financial resources	E3- The IT&C Industry contribution to GDP
<ul style="list-style-type: none"> • GDP per capita in 2011 reached the value of EUR 6530, the second lowest value in the EU after Bulgaria, Eurostat • a middle class has only recently started to appear and Romania's widespread poverty has started to decrease, therefore a large percentage of the population is still cut off from PC and Internet access due to their inability to afford such technologies. 	<ul style="list-style-type: none"> • firms lost approx. 20% of their sales in 2010, though the percentage was smaller than in 2009 • 29% of firms applied for credit in 2010, the average loan sizes approved were 86 percent of those requested • 50% of the firms declared in 2010 that their financial situation had worsened compared to 6 months earlier, and less than 10% declared their situation had improved www.enterprisesurveys.org 	<ul style="list-style-type: none"> • Romania is positioned in the World's top 10 in terms of IT&C sector growth • IT&C industry turnover exceeded USD12 billion, the IT&C exports stretched over USD4 billion in 2010 • The IT&C industry contribution to GDP was almost 3.2% in 2010. The sector was recovering with a healthy 10% increase in turnover generated by software and services sector exports in 2010, and is expected to grow faster in the next years. www.witsa.org

- Technological factors

A widely available and affordable information infrastructure is another important enabler of e-commerce diffusion. Regarding the penetration of internet and telecom services, the situation in Romania compared to that of developed countries is still difficult, our country being one of the last adopters of the new technologies, as the official data available so far show that 40-45% of households have internet access in Romania, EU average of 70%, 30-35% of the population regularly uses the internet EU average of 65%, Le Portail de Statistique and the internet penetration in Romania amounts to half of the EU average. The penetration of computers and the Internet is 50% in urban and less than 20% in rural areas, www.anrci.ro.

- Social factors

Country demographics are likely to act as enablers or inhibitors for e-commerce development. The Romanian education system is largely recognized as one of the best in the world of IT&C. Romania has become one of the favorite destinations for the multinational companies in the ICT sector, which have also established here regional centers, encouraged by the qualified labor force and the high rate of English speaking specialists. Also consumer desires drive the B2C ecommerce Gibbs et al. Romanian consumers have significant reservations about purchasing on-line, because of the lack of trust in business practices and preferences for in-store shopping and inspection of products.

Table 3. Social factors affecting the IT&C and Internet integration process by the Romanian enterprises

S1-Spread of population	S2- Education	S3- IT skills	S4- Consumer preferences
<ul style="list-style-type: none"> the stable population has decreased from approx 21 million persons to 19 million persons in 2012 the urban population, currently represents 52,5% of the total population the average size of the household has dropped to 2,66 persons. www.insse.ro, the population density 85 inhabitants/ sq km. (2012 Census) 	<ul style="list-style-type: none"> more than 75% of 18-year-olds in education in 2009, higher than the EU average 28.3% of the total number of pupils and students being enrolled in the Tertiary Education, above the European average Eurostat Over 5,000 university graduates are absorbed by the market yearly. 	<ul style="list-style-type: none"> the development of the IT market will lead to an increase of 21000 workplaces in the period 2010-2013, starting from the 44000 existing workplaces in 2009. The % of people working in the software sector will increase from approx 45% in 2009 to almost 55% in 2013, while the number of IT companies will increase to almost 1900 in 2013 www.idc.com 	<ul style="list-style-type: none"> In 2010 only 5% of the population had made online purchases, EU average of 40%, Eurostat the behavior of the Romanian consumers is changing, as a higher level of trust in e-commerce has been registered, as well as a growing number of online payments by credit cards.

- Environmental factors

Industry structure reflects both business demand for e-commerce and the capabilities of firms to engage in it. Firms in more information intensive industries and that operate globally are more likely to have need for e-commerce and large firms are more likely to have the capabilities needed to engage in it. In Romania 79% of the enterprises had internet access in 2011, compared to the European average of 90%, while only 35% Romanian enterprises had a website or a homepage, compared to the EU average of 67%, www.anrcti.ro. However, the Romanian e-commerce market shows real signs of improvement. The consolidation process is fuelled by the increasing number of online stores, by the increasing competitiveness of the sector, by the diversification of products, the openness to the European market and the need to counteract the actions of the international online stores that are trying to gain an increasing market share in Romania.

- Legislative factors

The electronic commerce shows a series of risks for the consumers. However, the benefits of the consumers have been improved by adopting specific legislation in Romania. The most relevant regulatory legislation we have identified are Law 265/2002 and Law 365. Law 265/2002 of the Electronic Commerce actually transposes the provisions of the EU Directive. Law 365 addresses the issue of commercial communications and specifically regulates the issue of the online contracts between two parties. It also specifically asserts that, in case of legal action with private consumers concerning the services of the information society, the service supplier is obliged to bring proofs regarding his actions to meet his obligations. The Ministry of Communication and Information Technology created a special email address where abuses in this domain can be reported – abuzuri@mcti.ro.

3.2. Model of the interdependency between the PESTEL factors

In order to conduct a thorough analysis of the impact of the macroeconomic factors on the IT&C and

Internet integration process, we have established the main interdependency relationships between the PESTEL components. In fig. 1 we present the specific model we have designed and further used as a tool to evaluate quantitatively the impact of each factor on the strategy of the enterprises.

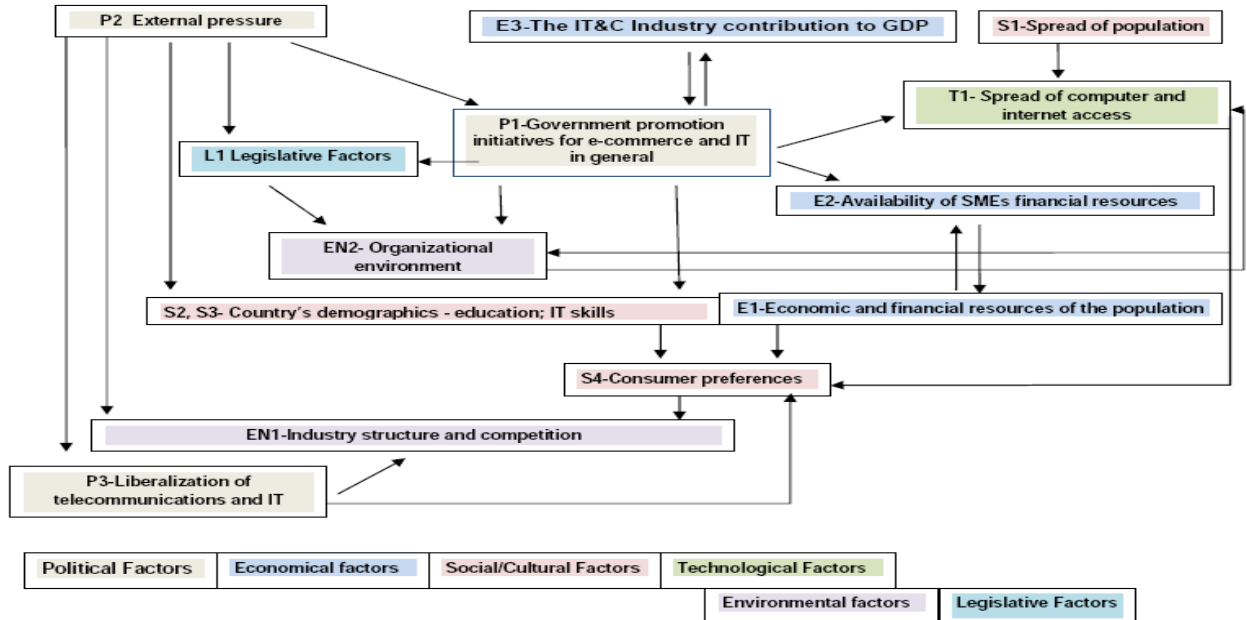


Fig. 1. Main interdependency relationships between the PESTEL factors

3.3. Evaluation of the PESTEL factors' impact on the strategies of the enterprises

Using as starting point the data gathered in the first stage of our research, and by interpreting the information using the Interdependency Model presented in Figure 1, we have ranked the impact of each factor on the strategy of the company, on a scale from 1 to 5, where 1 is the lowest impact and 5 the highest. The results of our evaluation process are presented in Table 4.

Table 4. The quantitative evaluation of the impact of the PESTEL components on the strategy

Dimension	Components	Impact on the strategy (1 2 3 4 5)
Political	P1 Government and European promotion initiatives for e-commerce and IT in general	4 to 5: P1 directly influences E2, E3, S2, S3, T1, EN2, L
	P2-External pressure	4: P2 has high impact on the IT&C sector
	P3- Liberalization of markets	2 to 3: P3 highly influences EN1
Economical	E1- Economic and financial resources of the population	2: E1 is in close interdependency with the financial resources of the enterprises
	E2- Availability of SMEs financial resources	2 to 3: E2 directly influences E1, increasing also the SMEs readiness to invest in IT&C
	E3- The IT&C contribution to GDP	3 to 4: as the potential of E3 increases, the P1 increases

